REMARKS

Claims 1-9 are pending in this application. By this Amendment, claims 1-3 are amended, claim 10 is cancelled. No new matter is added. Reconsideration of this application is respectfully requested.

I. §112 Rejection

The Office Action rejects claim 10 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to point out what is included or excluded by the claim language.

Claim 10 is cancelled. Accordingly, Applicant respectfully requests that the rejection be withdrawn.

II. §102 Rejection of claims 1-6

The Office Action rejects claims 1-6 under 35 U.S.C. §102(b) over U.S. Patent No. 4,635,484 to Lerch et al. ("Lerch"). This rejection is respectfully traversed.

Independent claim 1 recites, *inter alia,* "**a second ultrasonic transducer** element in or on the damping material **behind the first ultrasonic transducer** element **opposite the front face** of the structure, arranged and operable to receive sound energy propagated **through the damping material** when the first ultrasonic transducer element is operated to transmit an ultrasonic signal from the front face (emphasis added)." Lerch does not disclose, teach or suggest such a feature.

Applicant respectfully submits that the only embodiment in Lerch that includes a transducer structure with both transmitting elements and receiving elements is described at col. 4, starting at line 36, with respect to Fig. 7. As stated in Lerch at col. 3, lines 42-43, the resonating surfaces of transducers (4) and (6) are designated in the figures as resonating

surface (14) and resonating surface (16), respectively. Fig. 7 clearly depicts resonating surface (14) and resonating surface (16) to be adjacent to one another.

Accordingly, Applicant submits that Lerch does not disclose a second transducer that is "**behind the first ultrasonic transducer**" and "arranged and operable to receive sound energy propagated **through the damping material** when the first ultrasonic transducer element is operated to transmit an ultrasonic signal from the front face," as recited in the claims.

Accordingly, it is respectfully submitted that claim 1 is patentably distinguishable over the applied art. Claims 2-6 depend from independent claim 1 and are likewise patentably distinguishable over the applied art for at least their dependence on an allowable base claim, as well as for additional features they recite. Accordingly, withdrawal of this rejection is respectfully requested.

III. §102 Rejection of claims 1-5 and 7-9

The Office Action rejects claims 1-5 and 7-9 under 35 U.S.C. §102(b) over Great Britain Patent No. 2201318 to Jackson ("Jackson"). This rejection is respectfully traversed.

Independent claim 1 recites, *inter alia,* "**a second ultrasonic transducer** element in or on the damping material **behind the first ultrasonic transducer** element **opposite the front face** of the structure, arranged and operable to receive sound energy propagated **through the damping material** when the first ultrasonic transducer element is operated to transmit an ultrasonic signal from the front face (emphasis added)." Jackson does not disclose, teach or suggest such a feature.

For example, Applicant respectfully asserts that Jackson does not disclose a damping material. The ultrasonic transducer structure disclosed in Jackson includes a first ultrasonic transducer element (2), which is mounted to the surface of a support structure (8) by a matching element (7). This matching element (7) is not equivalent to a damping structure,

and is optimized to provide a gradual transition between the acoustic impedance of the ultrasonic transducer, and the medium into which it is to transmit a signal. Even if the matching material were taken to be equivalent to a damping material, the second ultrasonic transducer element (9) of Jackson is not located "**behind the first ultrasonic transducer** element **opposite the front face** of the structure" as recited in the claims. As described in Jackson at page 3, lines 23-28, the second ultrasonic transducer is located at the transmitting surface.

Accordingly, Applicant submits that Jackson does not disclose a second transducer that is "**behind the first ultrasonic transducer**" and "arranged and operable to receive sound energy propagated **through the damping material** when the first ultrasonic transducer element is operated to transmit an ultrasonic signal from the front face," as recited in the claims.

Accordingly, it is respectfully submitted that claim 1 is patentably distinguishable over the applied art. Claims 1-5 and 7-9 depend from independent claim 1 and are likewise patentably distinguishable over the applied art for at least their dependence on an allowable base claim, as well as for additional features they recite. Accordingly, withdrawal of this rejection is respectfully requested.

IV. §102 Rejection of claim 1

The Office Action rejects claim 1 under 35 U.S.C. §102(b) over U.S. Patent No. 6,443,900 to Adachi et al. ("Adachi"). This rejection is respectfully traversed.

Independent claim 1 recites, *inter alia,* "**a second ultrasonic transducer** element in or on the damping material **behind the first ultrasonic transducer** element **opposite the front face** of the structure, arranged and operable to receive sound energy propagated **through the damping material** when the first ultrasonic transducer element is operated to transmit an

ultrasonic signal from the front face (emphasis added)." Adachi does not disclose, teach or suggest such a feature.

For example, Figure 1 of Adachi shows an ultrasonic transducer structure with an acoustic lens 108, which forms the transmitting face. A first ultrasonic transducer element (102) is located behind the transmitting face, with a damping material (112) located behind the transmitting element. A second receiving element (104) is not located in or on this damping material behind the first element. Instead, the second receiving element is located on the transmitting side of the first element, between the first element and the transmitting face.

Accordingly, Applicant submits that Jackson does not disclose a second transducer that is "**behind the first ultrasonic transducer**" and "arranged and operable to receive sound energy propagated **through the damping material** when the first ultrasonic transducer element is operated to transmit an ultrasonic signal from the front face," as recited in the claims.

Accordingly, it is respectfully submitted that claim 1 is patentably distinguishable over the applied art. Accordingly, withdrawal of this rejection is respectfully requested.

V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-9 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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